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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,531	06/24/2003	Isao Ochiai	501.42867X00	8002

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EXAMINER

VANORE, DAVID A

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/601,531	OCHIAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David A Vanore	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 8 is/are allowed.
- 6) ☒ Claim(s) 1-6,9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>062403</u> . | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites an acceleration means. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-6, and 9-10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yasue.

Regarding claims 1-2, 4-6, and 9-10, Yasue teaches an electron microscope having an electron source which radiates a focused electron beam onto a specimen (Col. 1 Lines 54-56) indicating that a source and lens are present in the device. Column 8 of Yasue indicates that the process and device taught incorporate an automated control system for automatically detecting and analyzing a sample. This necessarily includes the automated control of deflecting and focusing an electron beam as it scans across a sample because the device of Yasue because the secondary electron beam

image detected by Yasue (Col. 4 Lines 32-38) is used to map the position of defects detected for x-ray analysis (Col. 8 Lines 23-32). Yasue therefore teaches the secondary electron detector and x-ray detector recited.

Yasue further includes the setting up of x-ray energy regions to have sensitivity data because Yasue analyzes x-ray distributions and their relative intensity reflected in the degree of the peak of the detected signal (Col. 5) as recited in claims 1, 4, and 6. Further, it is inherent that the device of Yasue take into account the sensitivity data of the specimen itself, otherwise, the device of Yasue would be unable to distinguish between the sample and the foreign matter.

Signal processing and elemental analysis are performed in Yasue in processing section (1). This section includes a database of spectra (13) where detected spectra are compared with known reference spectra (Col. 2 Lines 40-68). The steps of calculating a degree of matching in spectral shape and extracting the reference spectrum with the highest degree of matching are taught in Columns 6-7 of Yasue where the detected spectra are plotted and compared to the reference spectra to identify the elemental distribution of a defect on a wafer.

The taking of the standard deviation of the distribution of detected x-ray signals and comparing the to the reference spectra anticipates the standardization step (Fig. 1 and Col. 6 Lines 44-63).

Figure 1 of the process and device of Yasue further teach that the sample spectrum is checked against the reference spectra, the most likely match between the reference spectra being labeled to the detected spectra as a most likely result for a

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detected element of matter on a sample for use as an output indicating a result of the identification of foreign matter on a sample, said output including data indicating a plurality of different elements detected (Col. 2 Lines 56-59).

Regarding claim 2, Yasue teaches on Col. 5 Lines 55-68 that all candidate elements uncovered during analysis are displayed in order of descending composition ratio.

### ***Allowable Subject Matter***

Claims 7-8 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art fails to teach or suggest an electron microscope for the analysis of secondary electrons and x-rays where the electron beam dose is feedback controlled on the basis of counted x-rays per unit time as recited in claim 7.

Claim 8 is allowable by virtue of its dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is 703-306-0246. The examiner can normally be reached on M-F 7:30-5:00.

Application/Control Number: 10/601,531

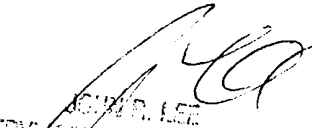
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 703-308-4116. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

dav

  
SUPERVISOR JOHN R. LEE  
703-308-4116  
703-872-9306